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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/899,907      | 07/05/2001  | Yoshimasa Honda      | 33782               | 3598             |

116 7590 02/25/2004

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EXAMINER

LEE, RICHARD J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2613

DATE MAILED: 02/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/899,907

Applicant(s)

HONDA ET AL.

Examiner

Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because form and legal phraseology often used in patent claims, such as "means" appearing at line 7 (twice), should be avoided.

Correction is required. See MPEP § 608.01(b).

3. Figure 38 should be designated by a legend such as "Prior Art" (see pages 3-6 of the Specification) in order to clarify what is applicant's invention. (see M.P.E.P. 608.02(g)).

4. Claims 2-6, 8-11, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For examples:

- (1) claim 2, line 4, "the bit generation amount" shows no clear antecedent basis;
- (2) claim 2, line 6, "the rate change" shows no clear antecedent basis;
- (3) claim 3, lines 3-4, "the quantization" shows no clear antecedent basis;
- (4) claim 3, line 5, "the motion estimation time" shows no clear antecedent basis;
- (5) claim 4, lines 8-9, the phrase "an area shown by **the reference inhibition area**

**information shows is inhibited from referring"** as claimed is vague and indefinite in that it is

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unclear what is meant by the reference inhibition area information shows is inhibited from referring as claimed;

(6) claim 5, line 4, “the referenced area information” shows no clear antecedent basis;

(7) claim 5, line 5, “the motion estimation” shows no clear antecedent basis;

(8) claim 5, line 7, “the referenced area information” shows no clear antecedent basis;

(9) claim 5, line 7, “the area” shows no clear antecedent basis;

(10) claim 5, line 8, “the referenced degree” shows no clear antecedent basis;

(11) claim 5, line 8, “the frame” shows no clear antecedent basis;

(12) claim 5, line 9, “the rate change” shows no clear antecedent basis

(13) claim 5, line 10, “the selected area” shows no clear antecedent basis;

(14) claim 6, line 5, “the rate change” shows no clear antecedent basis;

(15) claim 8, line 4, “the rate change” shows no clear antecedent basis;

(16) claim 9, lines 4-5, “the rate correction data” shows no clear antecedent basis;

(17) claim 9, line 5, “the data” shows multiple antecedent basis (see line 2, lines 4-5);

(18) claim 9, line 5, “the bit rate” shows no clear antecedent basis;

(19) claim 9, lines 7-8, the phrase “means for deciding a quarry out area by **quarrying out a part of a frame to able to decoding**” as claimed is vague and indefinite in that it is unclear what is meant by quarrying out a part of a frame to able to decoding as claimed;

(20) claim 9, line 9, “the rate correction data” shows no clear antecedent basis;

(21) claim 10, line 3, “the correction data” shows no clear antecedent basis;

(22) claim 10, line 3, “the rate change” shows no clear antecedent basis;

(23) claim 11, line 3, it is not particularly understood what “it” as claimed is referring to;

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(24) claim 11, line 4, "the rate correction data" shows no clear antecedent basis;

(25) claim 14, line 3, the phrase "can be" as claimed does not set forth positive recitation and therefore is considered indefinite; and

(26) claim 14, lines 4-5, "the objective bit rate" shows no clear antecedent basis.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 9, 10, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagihara et al (5,745,644).

Due to the indefiniteness of the claims as pointed out in the above paragraph (4), the Examiner wants to point out that the claims are being read in the broadest sense.

Yanagihara et al discloses a method and apparatus for encoding a digital video signal as shown in Figure 1, and teaches the same moving picture data producing apparatus to which non-compression moving picture data is input (i.e., 1A, 1B, 1C, 2, 3A, 3B, 3C, 4, 5 of Figure 1) and moving picture coding apparatus for producing and outputting moving picture data whose bit rate is different from input moving picture data which is previously compression coded as claimed in claims 1, 9, 10, 12, and 13, comprising the same quantization means (i.e., 10 of Figure 1); rate correction data producing means (i.e., 8, 12-14 of Figure 1, and see column 7, line 55 to column 8, line 43) for producing rate correction data which is used at a time of bit rate change, whereby moving picture data having the rate correction data other than normal moving picture stream is produced; means for deciding a quarry out area (i.e., 4 of Figure 1) by quarrying

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out a part of a frame to able to decoding, whereby the moving picture data having the rate correction data other than normal moving picture stream is produced, wherein the rate correction data producing means produces the rate correction data which the rate change is possible, to at least one of areas in respective quarry out areas in each frame (see column 7, line 55 to column 8, line 43); bit rate correction means by which the bit rate is changed by referring to rate correction data contained in the input moving picture data, whereby the bit rate is changed while the input moving picture data is not decoded (i.e., when the amount of data is found to be not less than the predetermined amount corresponding with a transfer rate of the digital VTR, a selected set of quantization intervals is provided to the quantizer 8, thereby providing the rate correction data and changing the bit rate while the input moving picture data is not decoded, see column 8, lines 16-43), wherein the bit rate correction means uses the rate correction data whose bit amount is different, included in the inputted moving picture data, and by replacing the previously coded moving picture data, corresponding to the objective bit rate, the bit rate change is conducted (see column 8, lines 16-43).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 2-5, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara et al as applied to claims 1, 9, 10, 12, and 13 in the above paragraph (6), and further in view of Furukawa et al (US 2001/0017887 A1).

Yanagihara et al discloses substantially the same moving picture data producing apparatus as above, further including means for recording reference inhibition area information which shows an area having the rate correction data in each frame of the moving picture data (i.e., 18A, 18B of Figure 1).

Yanagihara et al does not particularly disclose the followings:

(a) wherein the rate correction data producing means conducts quantization different from the quantization means on an area in which the bit generation amount in each frame of the moving picture data is large, and the rate correction data by which the rate change is possible, is produced; wherein the rate correction data producing means, in a P frame of the moving picture data, conducts the quantization different from the quantization means on an area in which the provability referred at the time of the motion estimation time is low, and the rate correction data in which the rate change is possible, is produced as claimed in claims 2 and 3;

(b) motion compensation means for conducting motion compensation, wherein, when motion estimation in the next frame is performed, an area shown by the reference inhibition area information shows is inhibited from referring; motion compensation means for conducting motion compensation and outputting the referenced area information referred to at the time of the motion estimation, wherein the rate correction data producing means uses the referenced area information and selects the area in which the referenced degree is low in the frame, so that the

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rate correction data by which the rate change is possible with respect to the selected area is produced as claimed in claims 4 and 5; and

(c) wherein the rate correction data producing means produces an I frame which is a coding image inside the frame, and produces the rate correction data by which the rate change is possible; and motion compensation means for conducting a motion compensation, in which it is inhibited to refer an area having the rate correction in the preceding frame and to a different quarry out area to conduct motion estimation as claimed in claims 8 and 11.

Regarding (a) to (c), Furukawa et al discloses a video encoding apparatus as shown in Figure 1, and teaches the conventional motion estimation and compensation means (i.e., 19 of Figure 1) for conducting motion compensation and outputting the referenced area information referred to at the time of the motion estimation, and in which it is inhibited to refer an area having the rate correction data in the preceding frame and to a different quarry out area to conduct motion estimation (i.e., motion detection and retrieval of motion vectors based on the relationship between the input video signal and the video in the preceding frame, page 3, section [0040]). Furukawa et al also teaches the conventional I and P frame processings (i.e., MPEG compression processing, page 1), as well as providing the desired increase/decrease in quantization based on the amount of motions in the frames, thereby providing the different quantization from the quantization means as claimed. And having provided the motion compensation means of Furukawa et al within Yanagihara et al, the rate correction data producing means within Yanagihara et al thereby uses the referenced area information and selects the area in which the referenced degree is low in the frame, so that the rate correction data by which the rate change is possible with respect to the selected area is produced as claimed.



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Therefore, it would have been obvious to one of ordinary skill in the art, having the Yanagihara et al and Furukawa et al references in front of him/her and the general knowledge of MPEG video compressions, would have had no difficulty in providing the I and P frame processings along with motion estimation and compensation processings, and the desired increase/decrease in quantization based on the amount of motions in the frames all as taught by Furukawa et al for the video encoder system of Yanagihara et al for the same well known adaptive quantization based on motion, and MPEG motion estimation and compensation for providing the best match block purposes as claimed.

9. Claims 6, 7, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara et al as applied to claims 1, 9, 10, 12, and 13 in the above paragraph (6), and further in view of Shimizu et al (5,748,245).

Yanagihara et al discloses substantially the same moving picture data producing apparatus as above, but does not particularly disclose wherein the rate correction data producing means deletes high frequency components from an original image and conducts the same quantization as the quantization means, and produces the rate correction data by which the rate change is possible; wherein the rate correction data producing means decides a position at which rear portion bits can be deleted, with respect to an area structured by a continuous arbitrary number of macroblocks, and produces the rate correction in which the position information is recorded, by which the rate change is possible; and the bit rate correction means selects an area in which the bit can be deleted, shown in the rate correction data included in the input moving picture data corresponding to the objective bit rate, and by deleting the bit rate, the bit rate change is conducted as claimed in claims 6, 7, and 14. However, Shimizu et al teaches the conventional

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deleting of the high frequency components of DCT blocks (see column 10, lines 41-52), thereby deleting high frequency components from an original image, deleting rear portion bits, and selecting an area in which the bit can be deleted as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Yanagihara et al and Shimizu et al references in front of him/her and the general knowledge of DCT frequency coefficient selections, would have had no difficulty in providing the deletion of the DCT high frequency components as taught by Shimizu et al for the system of Yanagihara et al so that the bit rate correction means of Yanagihara et al may record the position information by which the rate change is possible for the same well known video bandwidth reduction purposes as claimed.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shirota , Hang, and Tanaka disclose various types of video encoders.

11. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.

  
RICHARD LEE  
PRIMARY EXAMINER

Richard Lee/rl

2/20/04

